

What is claimed is:

Sub A
1. A polymer complex for entrapping drug granules comprising:

a polymer having at least one free carboxyl group; and polyvinylpyrrolidine (PVP).

2.

A polymer complex according to claim 1 whereby the polymer and the polyvinylpyrrolidine are present in a weight ratio that affords the maximum yield.

3.

A polymer complex according to claim 1 wherein the polymer is selected from the group consisting of acrylic polymers, acrylic copolymers, methacrylic acid polymer, methacrylic acid copolymers, polyvinyl acetate phthalate (PVAP), cellulose acetate phthalate, cellulose acetate succinate, cellulose acetate trimellitate, methacrylic acid-alkylmethacrylate copolymers (where alkyl = methyl, ethyl, etc.), starch, cellulose, dextran, etc., carragenan, guar gum, chitin, hyaluronic acid, gellan, acacia, alginic acid, pectin, tragacanth, xanthan gum, sodium alginate, and sodium carboxymethylcellulose.

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A polymer complex according to claim 1 wherein the polymer is polyvinyl acetate phthalate (PVAP).

4 5.

A polymer complex according to claim 4 whereby the polymer and the polyvinylpyrrolidone are present in a weight ratio ranging from about 4:1 to about 1:4 PVAP to PVP.

5 6.

A polymer complex according to claim 1 further including a flavoring agent.

6 7.

A polymer complex according to claim 1 further including one or more pharmaceutical excipients selected from the group consisting of binder, lubricant, disintegrant, coloring agent, flavoring agent, and diluent.

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A polymer-entrapped drug comprising:

a drug;
a polymer having at least one free carboxyl group; and
polyvinylpyrrolidone (PVP).

8 9.

A polymer-entrapped drug according to claim 8 wherein the polymer and the PVP are present in a weight ratio that affords the maximum yield of the complex.

10.

A polymer-entrapped drug according to claim 8 wherein the drug is insoluble in organic solvent, but soluble or

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suspendable in an alkaline solution and insoluble in aqueous acidic solutions.

9 11.

A polymer-entrapped drug according to claim 8 wherein the drug is a bitter-tasting drug.

10 12.

A polymer-entrapped drug according to claim 11 wherein the drug is an NSAID.

11 13.

A polymer-entrapped drug according to claim 12 wherein the drug is ibuprofen.

12 14.

A polymer-entrapped drug according to claim 8 further including one or more pharmaceutical excipients selected from the group consisting of binder, lubricant, disintegrant, coloring agent, flavoring agent, and diluent.

15.

A polymer-entrapped drug according to claim 8 wherein the polymer and the PVP form a complex.

16 17.

A polymer-entrapped drug according to claim 8 wherein the complex is insoluble at acidic pH.

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17.

A polymer-entrapped drug according to claim 8 wherein the drug is entrapped in a complex formed by the polymer and the PVP.

18.

A polymer entrapped drug according to claim 8 wherein the polymer is selected from the group consisting of acrylic polymers, acrylic copolymers, methacrylic acid polymer, methacrylic acid copolymer, polyvinyl acetate phthalate (PVAP), cellulose acetate phthalate, cellulose acetate succinate, cellulose acetate trimellitate, methacrylic acid-alkylmethacrylate copolymers (where alkyl = methyl, ethyl, etc.), starch, cellulose, dextran, etc., carragenan, guar gum, chitin, hyaluronic acid, gellan, acacia, alginic acid, pectin, tragacanth, xanthan gum, sodium alginate, and sodium carboxymethylcellulose.

19.

A method of making a polymer entrapped drug comprising the steps of:

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combining a polymer having at least one free carboxyl group, polyvinylpyrrolidone (PVP) and a drug in a non-acidic medium to form a mixture; and
adjusting the pH of the mixture to an acidic pH to form entrapped drug granules.

20.

A method according to claim 19 wherein the non-acidic medium is an aqueous alkaline solution or an organic solvent.

21.

A method according to claim 19 wherein the non-acidic medium is an aqueous alkaline solution.

22.

A method according to claim 19 wherein the aqueous alkaline solution is selected from the group consisting of sodium hydroxide, potassium hydroxide, and ammonium hydroxide.

23.

A method according to claim 19 wherein the pH of the aqueous alkaline mixture containing drug and polymers is lowered to an acidic pH of less than about 4.

24.

A method according to claim 23 wherein the pH of the aqueous alkaline mixture containing drug and polymers is lowered to a pH of about 3 or below.

25.

A method according to claim 19 wherein the pH of the aqueous alkaline mixture containing drug and polymers is lowered with hydrochloric acid.

26.

A method according to claim 19 wherein the non-acidic medium is an organic solvent selected from the group consisting of methanol, ethanol, propylene glycol, glycerin, acetone, acetone-methanol, acetone-ethanol, methanol-methylene chloride, ethylacetate, ethylacetate-propyl alcohol, and acetone-methylene chloride.

27.

A method according to claim 19 further including the steps of:
separating the entrapped drug granules from the mixture;
washing the granules; and
drying the granules.

28.

A method according to claim 19 further including the step of:
incorporating the granules into a dosage form selected from the group consisting of tablets, capsules, and chewable tablets.

29.

A method according to claim 19 further including the step of:
dispersing the granules in a pharmaceutically acceptable liquid medium.

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